ensued owing to the fact that separate proof-slips were sent to widely scattered members.

DR. Stephen Smith of this city has been appointed State Commissioner in Lunacy. His previous knowledge of the practical needs of the insane acquired as a working member of the State Board of Charities, as well as his high general professional attainments, justifies, doubtless, his selection, though we should have been glad to have seen an appointment made that, in addition to the qualities contributed by Dr. Smith, carrried with it the further, and in this case, somewhat essential qualification of previous special study of insanity.

WE have not hesitated to devote considerable space in the columns of the JOURNAL to the case of Guiteau, since it has served as a nucleus for instructive essays and discussions. A natural and final contribution to the subject is an account of the autopsy and of the histological appearances. This we herewith print *verbatim* from the report made to the New York *Medical Record* of July 8th, and from the *Medical News* of September 9. 1882.

NOTES OF AUTOPSY HELD UPON THE BODY OF CHARLES J. GUITEAU.

TO THE EDITOR OF THE *Medical Record:*

SIR: As requested by you, we enclose preliminary notes of the autopsy held upon the body of Guiteau. The examination was made under the direction of Dr. Lamb, U. S. A., to whose courtesy we are indebted. Each physician present was left at liberty to make his own notes and observations. Those enclosed are compiled equally from notes independently taken by us. We were greatly assisted also by Dr. Chas. K. Mills, of Philadelphia.

Dr. Lamb will publish later a full report which this does not forestall, but to which it is, as stated, simply preliminary.

WM. J. MORTON, M.D.
CHAS. L. DANA, M.D.

NEW YORK CITY, *July*, 5, 1882.

The *post-mortem* was held about three-quarters of an hour after death.

GENERAL APPEARANCE OF BODY.

The body was still warm; the limbs flaccid. There was no emaciation. The skin had a marked yellowish tinge. There was a slight but wide-spread ecchymosis upon the left side of the face. When the body was first taken down the eyeballs protruded and the lids were open.

A brownish red mark, made by the rope, extended three fourths of the way around the neck, the knot having evidently slipped from the left side to the back. The mark went just above the thyroid cartilage.

The penis showed that there had been an erection and emission. There was a tight prepuce, with slight adhesions and abundant smegma. There was no mark of a venereal sore.

The *eyes.*—The pupils were slightly and equally dilated, the vitreous cloudy, and fundus indistinguishable.

Abdominal cavity.—Section through the median line showed considerable deposit of fat. The liver was congested, but otherwise normal. The gall-bladder contained a little bile. The spleen was enlarged. Its weight was fifteen ounces. Its tissue appeared normal. The other abdominal viscera were normal. The bladder contained about five ounces of urine.

Thoracic organs.—In opening the thorax a slight venous effusion was found in the right pectoralis major muscle.

The heart was firm. A soft clot was being formed in the right ventricle. The left ventricle was empty. The heart ceased action in systole. Weight, 10¾ ounces. A spot of old inflammation existed on left ventricle near the apex. There was a slight atheroma at the beginning of the aorta. There were a few pleuritic adhesions on each side. The pleural cavities were empty. The lungs were slightly congested. A few small, gray bodies resembling miliary tubercles were found in middle part of the left lung, near the outer external surface. Otherwise every thing was essentially normal.

The *neck.*—There was externally a mark, as has been described. Both the sterno-cleido-mastoid muscles were ruptured; also the thyro-hyoid membrane. The hyoid bone was not broken, nor the laryngeal cartilages. There was no fracture or dislocation of the vertebræ.

HEAD, SKULL, AND BRAIN.

The appearance of the face and eyes has been described. There was a scar on the scalp an inch long. It was situated above and behind the left temple, at about two thirds the height and an inch in front of the auriculo-bregmatic line. It extended through the scalp, but there was no corresponding mark of any kind upon the skull.

The *skull.*—The most noticeable asymmetry was a slight flattening of the upper and anterior part of the right parietal bone. The flattening ended sharply at the coronal suture. It included a space about half the size of the palm of the hand. Other points of asymmetry were not sufficiently noticeable to be studied with the means at our command.

The *cranial sutures* were distinct. There was no visible trace of a frontal suture, the two halves of the frontal bone being thoroughly welded. On the inner surface of the skull the bony prominences were well marked; also the Pacchionian depressions. No abnormalities were discovered. There was a slight prominence corresponding to the flattening of the parietal bone before mentioned.

The thickness of the skull was not measured owing to lack of facilities. An attempt was made to measure its cubic contents but it failed for the same reason. As regards thickness there was no striking abnormality at least.

The relative size of the fossæ could not be accurately determined at the time of autopsy.

Brain membranes.—The dura mater was quite strongly adherent in places to the inner surface of the skull. Near the trunks of the middle meningeal arteries upon each side, the membrane was thickened and strongly adherent to the bone, though it could be stripped clean. It was also adherent near the longitudinal sinus in front. There was at these points, probably, a slight chronic pachymeningitis externa. There was no exudation upon the inner surface of the dura anywhere. The cerebral sinuses contained but little blood. There was rather more than the average amount of Pacchionian granulations distributed along the middle part of the upper surface.

The *arachnoid.*—There were very well-marked milky opacities of the arachnoid extending over the upper convex surface. These opacities were over the fissures only. In some parts they had a somewhat yellowish look.

The subarachnoid space contained no abnormal amount of fluid.

The *pia mater* presented no abnormal appearance. It came off easily from the brain.

The *blood-vessels* of the membranes and brain were not full, and the general appearance of the brain was anæmic.

There was no special examination of the larger vessels.

THE BRAIN.

The *weight* was forty-nine and a half ounces (measured on a grocer's scales).

Its *consistence* appeared to be normal.

Its *specific gravity* could not be obtained owing to lack of facilities.

The *measuremeut* of its *chords and arcs* could not be obtained for the same reason.

As regards *contour and shape* exact studies could not be made. There was no apparent asymmetry of the two hemispheres.

The *comparative weights* of the cerebra and the other parts could not be obtained.

The *cerebellum* was well covered. The occipital lobes were not noticeably blunt or sharp.

The frontal lobes were peculiarly shaped. Looking at them from in front and above, they presented two protruding points from which the surface sloped away in a concave curve. This pointed apex of the lobes, with the concavity of the orbital and beginning of the frontal surface, was carefully noted by all of us at the first exposure and removal of the brain.

THE LOBES AND CONVOLUTIONS.

Frontal lobes.—Their peculiar shape has been referred to. As regards size they appeared to be well developed.

THE FRONTAL LOBES—LEFT SIDE.

The *first frontal fissure* was very long. It was broken by a single bridge near the junction of the anterior and middle thirds. The *secondary fissure* was

very marked, so much so that it seemed almost to form an independent primary fissure. The *seeond frontal fissure* was well defined, but interrupted by four small concealed connecting convolutions. It communicated with the first by a cross fissure. It was not confluent with the præcentral fissure.

The *præcentral fissure* was well defined and not confluent. The convex surface of this lobe, as a whole, was marked with an unusual number of cross and other secondary fissures. It was not of a confluent type, but it showed a marked tendency to the four-convolution type.

The *orbital surface* showed a radiate orbital fissure starting from a single central depression or fissure. There were five radiate fissures from this centre. The *olfactory fissure* showed nothing peculiar.

THE FRONTAL LOBES—RIGHT SIDE.

The *first frontal fissure* was well defined, non-confluent, except that at its posterior extremity it communicated with a deep cross fissure. The *secondary fissure* was a typical one. The *second frontal fissure* was well defined and non-confluent.

Præcentral fissure.—(No notes.)

The *orbital surface* was well fissured. The *orbital fissure* branched off from a small isolated central convolution in seven different rays.

The *olfactory fissure* was normal.

The right frontal lobe was not of a confluent type, nor four-fissured, but had an unusual development of secondary fissures, like the left lobe.

THE PARIETAL LOBES—LEFT SIDE.

Fissure of Sylvius.—The distance of its lower end from the apex of the frontal was not measured ; nor the angle it formed with a horizontal plane. In both these respects it *appeared* to be normal. There was a partial confluence with the first temporal and also with the fissure of Rolando. From the surface it appeared as if the latter fissure passed directly into the Sylvian. On parting the convolutions, however, a connecting convolution was seen. The fissure seemed to be of average length.

The *anterior branch* was well defined and non-confluent.

The *fissure of Rolando* was well defined and not confluent. The præ- and post-central convolutions as well as the præcentral lobule were large and well developed.

The *retro-central fissure* was well defined and separated from the interparietal by a small concealed connecting convolution.

THE PARIETAL LOBES—RIGHT SIDE.

The *fissure of Sylvius.*—There was no confluence, apparent or real, of this fissure.

The *anterior branch.*—(No notes.)

The *fissure of Rolando* was well defined and non-confluent. It extended slightly into the longitudinal fissure, fissuring the paracentral lobule. The central convolutions, as they lay under the depressed parietal bone, were examined with special care. The præcentral convolution was well developed throughout its whole length. The post-central convolution was well developed up to its upper fourth. Here it became narrow and shrunken.

The *præcentral lobule* was quite small. On the left side, *per contra*, this lobule was well developed, while the fissure of Rolando wes separated from the longitudinal fissure by a broad convolution. (There was a deficient innervation of the left side of the face.)

The *retro-central fissure* was well defined and confluent with the interparietal.

THE LEFT SIDE.

The *island of Reil* was well covered. Seven straight fissures and eight convolutions were present.

The *interparietal fissure* began at the retro-central and ran a well-defined course, ending in the transverse occipital, from which it was separated, however, by a small convolution. It had no complete confluences.

THE RIGHT SIDE.

The *island of Reil* was well covered and had five straight fissures and six convolutions.

The *interparietal fissure* began in and was confluent with the retro-central. It was well defined. No abnormal confluences noted.

TEMPORO-SPHENOIDAL LOBES—LEFT SIDE.

The *first temporal fissure* was well defined for depth, but was not so long as usual—not running up to the angular gyrus. It was slightly confluent with the fissure of Sylvius.

The *second temporal fissure* was not especially well defined.

On the basal surface the *inferior temporal fissure* was well defined and not confluent.

The *collateral fissure* was well defined and long, extending to the anterior end of the temporal lobe.

The *fusiform lobule* was smaller on this, the left side, than on the right.

TEMPORO-SPHENOIDAL LOBES—RIGHT SIDE.

The *first temporal fissure* was well defined and of normal length, with no confluences.

The *second temporal fissure.*—(No notes.)

On the basal surface the *inferior temporal fissure* was normal. It was incompletely confluent with the *collateral fissure*, which was well defined but shorter than that on the left side.

THE OCCIPITAL LOBES.

The *primary fissures* were present in these lobes on both sides and no especial peculiarities were noted.

The *anterior occipital*, or Wernicke's fissure, was present on each side, was well defined and non-confluent.

The *right transverse fissure* was well defined, beginning on the mesal surface and passing out with two small interrupting convolutions.

The *left transverse fissure* was well defined ; nothing further noted.

Thus of the three fissures which combine in apes to form the ape-fissure, viz., the second temporal, the anterior occipital (Wernicke's), and the transverse occipital, two were only normally defined ; the remaining (the temporal) was not strongly marked.

MESAL SURFACE—LEFT SIDE.

The *calloso-marginal fissure* ran its usual course to form the anterior boundary of the præcuneus. It was broken in the last part at the præcuneus by a convolution.

Above this fissure was a *secondary fissure*, running parallel to it and ending about opposite the first third of the corpus callosum.

MESAL SURFACE—RIGHT SIDE.

The *calloso-marginal fissure* was continued on through the præcuneus to the parieto-occipital fissure, from which it was separated by a small convolution.

The *secondary fissure* upon this side was still more developed than on the left, and ran back to the anterior boundary of the paracentral lobule.

On the whole it would appear (1) that the brain was marked by an unusual number of cross and secondary fissures, especially in the frontal lobes; (2) that it was not of the confluent fissure type; (3) that the convolutions on the two hemispheres were quite asymmetrical.

THE INTERIOR OF THE BRAIN.

The white substance was somewhat whiter than usual, and of normal consistency.

The gray cortex was measured and seemed to be somewhat thinner than usual. Eight or nine measurements in different parts gave a thickness varying between $\frac{1}{8}$, $\frac{1}{9}$, $\frac{1}{12}$, $\frac{1}{16}$ of an inch.

The *ventricles* were dry, the ependyma normal, the choroid plexus showed nothing noticeable. No spots of hemorrhage or softening were found, and no tumor was present.

THE CEREBELLUM.

Nothing peculiar was noted regarding this portion of the brain.

The brain was finally cut into various pieces.

Portions were distributed for microcsopic examination.

MICROSCOPIC EXAMINATION OF GUITEAU'S BRAIN. CHANGES IN ITS ORGANISM DENOTING INITIAL DEMENTIA PARALYTICA.

The following is the official report of the microscopical examination of the brain of Charles J. Guiteau, who died by hanging June 30, 1882, at the United States Jail, Washington, D. C., in execution of judicial sentence, published in the *Medical News* of Sept. 9, 1882.

D. S. LAMB, M.D.

SIR: The committee of three whom you, with the assent of Rev. Dr. W. W. Hicks, requested to make a careful microscopical examination of sections from the brain, dura mater, and lung of the late Charles J. Guiteau, and to report the conditions found to be present, have completed their investigation, and have agreed upon the following report:

Thin sections, prepared by Dr. J. C. McConnell, of the Army Medical Museum, from the lung, dura mater, and brain, were submitted to your committee for their inspection.